

What is claimed is:

1. A power conversion device, comprising:
a transformer having a primary input winding and multiple secondary output windings; and
a switched inverter circuit coupled to the secondary output windings and configurable to couple a first output winding with a parallel path inverter and configurable to couple a second output winding with a series path inverter.
2. The device of claim 1, wherein the series path inverter is a full-bridge inverter.
3. The device of claim 1, further comprising:
an energy storage device coupled to the parallel path inverter for mitigating voltage disturbances.
4. The device of claim 1, further comprising:
a filter coupled to the output of the transformer for smoothing output waveforms.
5. The device of claim 1, further comprising:
an AC/DC converter block coupled to the parallel path inverter for converting Alternating Current (AC) waveforms into Direct Current (DC) waveforms.
6. The device of claim 5, wherein the AC/DC converter block is a full-bridge converter.
7. The device of claim 5, wherein the AC/DC converter block is a diode bridge.
8. The device of claim 1, wherein the series path inverter and the parallel path inverter comprise a plurality of configurable semiconductor switches.
9. The device of claim 8, wherein the semiconductor switches are thyristors.
10. A power conversion device, comprising:
a transformer having a number of primary windings adapted to be coupled to a three-phase power source and a number of secondary Δ - Δ and Δ -Y connections;
a first switched inverter coupled to the Δ - Δ secondary connection; and
a second switched inverter coupled to the Δ -Y secondary connection and to the first switched inverter for providing a harmonically compensated waveform.

11. The device of claim 10, further comprising:
AC/DC converter blocks coupled to the secondary Δ - Δ and Δ -Y connections for converting Alternating Current (AC) waveforms into Direct Current (DC) waveforms.
12. The device of claim 11, wherein the AC/DC converter block is a diode bridge.
13. The device of claim 10, further comprising:
an energy storage device coupled to the input of at least one of the first and second switched inverters.
14. The device of claim 10, further comprising:
a filter coupled to the output of at least one of the first and second switched inverters.
15. A power conversion device, comprising:
a transformer adapted to be coupled to a power source;
power electronics coupled to the transformer for transforming the power source into a desired waveform; and
an energy storage device coupled to the transformer and the power electronics for mitigating interruptions in the power source.
16. The device of claim 15, further comprising:
a converter coupled to the transformer for converting the power source from Alternating Current (AC) waveforms to Direct Current (DC) waveforms.
17. The device of claim 15, wherein the power electronics include an actively switched inverter for providing a desired output waveform.
18. The device of claim 15, wherein the converter is a switched full-bridge converter.
19. The device of claim 15, further comprising:
a filter coupled to the power electronics for smoothing the output waveform.
20. The device of claim 17, wherein the switched inverter is controlled by pulse width modulation.